

Outputs and Interactions - Surface and Microanalysis Science Division

1. Publications

1a. Publications in Print

- Armstrong, J.T., Scott, J.H., Small, J.A., and Steel, E.B., "***A Proposal for a Standard Nomenclature and Interactive Database of Parameters and Correction Algorithms Used in Quantitative Electron Probe Microanalysis***," *Microscopy and Microanalysis* 9 (Suppl. 2), 532-533CD (2003).
- Armstrong, J.T., "***Technetium: The Element that was Discovered Twice***," *Chemical and Engineering News* 81 (36), 110 (Sept. 8, 2003).
- Baum, R.M., Klinman, J., Bartlett, N., Schleyer, P.V.R., Newman, L.S., Corey, E.J., Olah, G.A., Nagler, P., Djerassi, C., Dicciani, N.K., Schroder, K.H., Cole, G.D., Robinson, G.H., Hoffmann, R., Poulter, C.D., Smith, A.B., Burrows, C., Morrissey, S.R., Forsen, S., Raade, G., Connelly, T.M., Butler, A., Gray, H.B., Valentine, J.S., Ellis, A.B., Schwab, E., Hanson, D.J., Whitesides, G.M., Breslow, R., Sacks, O., Halford, B., Ahmed, M.F., Tungsheng, L., Greenspan, A., Ritter, S.K., Makhijani, A., Chu, P.C.W., Jackson, N.B., Zurer, P.S., Mitchell, P.C.H., Armstrong, J.T., Grubbs, R.H., Halpern, J., Overman, L., Shaw, A., Wolke, R.L., Henry, C., Gerrard, S., Ulrich, N., Dittmer, D.C., Stang, P.J., Kaner, R., Dalton, L.W., Peters, J.A., Raber, D.J., Scerri, E.R., Schrock, R.R., Lowden, R., Brot, F., Shott, I., Eisenberg, R., Gross, R.M., Lightman, A., Baum, R.M., Nriagu, J.O., Shakhashiri, B.Z., Burford, N., Hogue, C., Corson, D.R., Orozco, L.A., Ames, D.P., Wall, G., Grae, S.H., Raber, L., Eichstaedt, P., Giroux, R., Baker, S.M., Pepling, R.S., Schulz, W.G., Yarnell, A., Kemsley, J., Ghiorso, A., Choppin, G.R., Nurmia, M., Trzaska, S.M., Freemantle, M., Zvara, I.J., Seaborg, E., Armbruster, P., Rife, P., and Hoffman, D.C., "***The Periodic Table***," *Chemical and Engineering News* 81 (36): 27-190 (Sept. 8, 2003).
- Blevens, L.G., Fletcher, R.A., Benner, B.A., Steel, E.B., and Mulholland, G.W., "***The Existence of Young Soot in the Exhaust of Inverse Diffusion Flames***," in *Proceedings of the Combustion Institute*, V. 29, 2325-2333, 2002.
- Bright, D.S., and Small, J.A., "***The Poly Plot Package-Data Analysis Tools for Spectral Images***," *Microscopy and Microanalysis Conference Proceedings*
Published on CD distributed with the printed copy: *PROCEEDINGS Microscopy and Microanalysis* 2003, San Antonio TX Cambridge U. Press.
- Buchanan, J. D. R., Hase, T. P. A., Tanner, B. K., Chen, P. J., Gan, L., Powell, C. J., and Egelhoff, W. F., Jr., "***Anomalous Large Interdiffusion in Aluminum-Transition Metal Bilayers***," *Phys. Rev. B* **66**, 104427 (2002).
- Buchanan, J. D. R., Hase, T. P. A., Tanner, B. K., Chen, P. J., Gan, L., Powell, C. J., and Egelhoff, W. F., Jr., "***Intermixing of Aluminum-Magnetic Transition-Metal Bilayers***," *J. Appl. Phys.* **93**, 8044-8046 (2003).
- Choquette, S., Etz, E.S., Hurst, W., and Blackburn, D., "***Relative Intensity Correction Standards for Raman Spectroscopy for Excitation with Several Common Laser Wavelengths***," *American Pharmaceutical Review*, Vol. 6 (Issue 2), 74-79 (2003).

- Conny, J.M., Klinedinst, D.B. Wight, S.A. and Paulsen, J.L., ***“Optimizing Thermal-Optical Methods for Measuring Atmospheric Elemental (Black) Carbon: A Response Surface Study,”*** Aerosol Sci. Technol., 37, 703-723 (2003).
- Currie, L.A., ***“The Remarkable Metrological History of ¹⁴C Dating: From Ancient Egyptian Artifacts to Particles of Soot and Grains of Pollen,”*** Czechoslovak Journal of Physics 53, Supplement A, A137-A160, (2003).
- Etz, E.S., Roberson, S.V., and Gillen J.G., ***“Raman Microspectroscopy of Some High Explosives Heated to High Temperatures”***, Microscopy and Microanalysis, Vol. 9, Supplement 2 (2003).
- Foran B., Kastenmeier B., and Bright, D.S., ***“Determination of Pore-Size Distributions in Low-k Dielectric Films by Transmission Electron Microscopy”*** In Characterization and Metrology for ULSI Technology: 2003[March 24-28 Austin, TX], D. G. Seiler, A. C. Diebold, T. J. Shaffner, R. McDonald, S. Zollner, R. P. Khosla, E. M. Secula, Eds., AIP Press, College Park Maryland. AIP Conference Proceedings 683, 556-561.
- Gan, L., Gomez, R. D., Castillo, A., Chen, P. J., Powell, C. J., and Egelhoff, W. F., Jr., ***“Ultra-Thin Aluminum Oxide as a Thermal Oxidation Barrier on Metal Films,”*** Thin Solid Films 415, 219-223 (2002).
- Gan, L., Gomez, R. D., Powell, C. J., McMichael, R. D., Chen, P. J., and Egelhoff, W. F., Jr., ***“Thin Al, Au, Cu, Fe, Ni, and Ta Films as Oxidation Barriers for Co in Air,”*** J. Appl. Phys. 93, 8731-8733 (2003).
- Gao, J. J., Levine, T. M., Neogi, S., Scott, J. H., Grantham, S., and Levine, Z. H. ***“Parallax Measurements of Integrated Circuit Interconnects Using a Scanning Transmission Electron Microscope,”*** Journal of Applied Physics vol. 93, 2193 (2003)
- Gu, X., Sung, L., Ho, D.L., and Michaels, C.A., ***“Surface and Interface Properties of UV Exposed PVDF/PMMA-co-PEA Blends,”*** Proc. Adhesion. Soc. 26, 505 (2003).
- Jablonski, A., and Powell, C. J., ***“Comparisons of Practical Attenuation Lengths Obtained from Different Algorithms for Application in XPS,”*** Surf. Science 520, 78-96 (2002).
- Jablonski, A., and Powell, C. J., ***“Information Depth and the Mean Escape Depth in Auger Electron Spectroscopy and X-ray Photoelectron Spectroscopy,”*** J. Vac. Sci. Tech. A 21, 274-283 (2003).
- Jach, T.J., and Landree, E., ***“Grazing Incidence X-Ray Photoelectron Spectroscopy: A Method to Study Gate Dielectric Films on Si,”*** Journal of Surface Analysis, 9, 339 (2002).
- Jach, T.J., Kim, S., Durbin, S.M., Gopalan, V., and Bright, D.S., ***“Real-Time Studies of Strains at Ferroelectric Domain Walls Under an Applied Field,”*** Fundamental Physics of Ferroelectrics, AIP Conference Proceedings, 626, 260 (2002).
- Jin, N., Chung, S-Y., Rice, A.T., Berger, P.R., Thompson, P.E., Rivas, C., Lake, R., Sudirgo, S., Kempisty, J.J., Curanovic, B., Rommel, S.L., Hirschman, K. D., Kurinec, S.K., Chi, P.H. and Simons, D.S., ***“Diffusion Barrier Cladding in Si/SiGe Resonant Interband Tunneling Diodes and Their Patterned Growth on PMOS Source/Drain Regions,”*** IEEE Transactions on Electron Devices, 50 (2003) 1876-1884.

- Lemire, K.R., Allen, D.T., Klouda, G.A., and Lewis, C.W., "***Fine Particulate Matter Source Attribution for Southeast Texas Using $^{14}\text{C}/^{13}\text{C}$ Ratios***," J. Geophysical Res., Vol. 107, No. D22, 4613, doi:10.1029/2002JD002339, 2002.
- McKeown, D.A., Post, J.E., and Etz, E.S., "***Vibrational Analysis of Palygorskite and Sepiolite***", Clays and Clay Minerals, Vol. 50 (No. 5), 667-680 (2002).
- Michaels, C.A., Chase, D.B., and Stranick, S.J., "***Chemical Imaging of Thin Film Polymer Blends with Near-Field IR Microscopy***," Poly. Mat. Sci. and Eng. 88, 188 (2003).
- Newbury, D.E., "***X-ray Microanalysis in the Variable Pressure (Environmental) Scanning Electron Microscope***," J. Research of NIST, 107 (2002) 567-603.
- Newbury, D.E., "***Barriers to Quantitative Electron Probe X-ray Microanalysis for Low Voltage Scanning Electron Microscopy***," J. Research of NIST, 107 (2002) 605-619.
- Newbury, D.E., Irwin, K.D., Beall, J.A., Deiker, S., Hilton, G.C., King, L., Nam, S.W., Reintsema, C.D., Small, J.A., and Vale, L.R., "***The Development of Microcalorimeter EDS Arrays***," Microscopy and Microanalysis, Vol. 8, No. suppl. 2, 78-79, Nov 1, 2002.
- Newbury, D.E., and Myklebust, R.L., "***Determining Limits of Detection from Energy Dispersive X-ray Spectra***," Micros. Microanal 9 (Suppl 2) (2003) 28-29.
- Newbury, D.E., Marinenko, R.B., Armstrong, J.T., Small, J.A., and Steel, E.B., Report from the NIST-MAS Workshop on "***The Accuracy Barrier in Quantitative EPMA and the Role of Standards***" Micros. Microanal 9 (Suppl 2) (2003) 428CD.
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- Robins, L.H., Armstrong, J.T., Marinenko, R.B., Paul, A.J., Pellegrino, J.G., and Bertness, K.A., "***High-accuracy determination of the dependence of the photoluminescence emission energy on alloy composition in Al_xGa_{1-x}As films***," J. Appl. Phys. 93 (7), 3747-3759, (2003).
- Scott, J.H., "***Analytical Advances in the SEM***," Analytical and Bioanalytical Chemistry, volume 375, pp. 38. (2003).
- Slater, J.F., Currie, L.A., Dibb, J.E., and Benner, Jr., B.A., "***Distinguishing the Relative Contribution of Fossil-Fuel and Biomass Combustion Aerosols Deposited at Summit, Greenland, Through Isotopic and Molecular Characterization of Insoluble Carbon***," Atmospheric Environment 36 4463-4477 (2002).

- Small, J.A., *“A Well Dressed Microscope: Practical Experience with Microcalorimeter and Silicon Drift Detector Systems,”* Microscopy and Microanalysis Journal, Proceedings Microscopy and Microanalysis (2002).
- Stranick, S.J., Buntin, S.A., and Michaels, C.A., *“Scanning Near-field Dielectric Microscopy at Microwave Frequencies for Materials Characterization,”* Poly. Mat. Sci and Eng. 142, 88, 2003
- Tanuma, S., Powell, C. J., and Penn, D. R., *“Calculations of Electron Inelastic Mean Free Paths (IMFPs). VII. Reliability of the TPP-2M IMFP Predictive Equation,”* Surf. Interface Anal. 35, 268-275 (2003).
- Verkouteren, R.M., Allison C.E., Studley S.A., and Leckrone, K.J., *“Isotopic metrology of carbon dioxide. I. Interlaboratory comparison and empirical modeling of inlet equilibration time, inlet pressure, and ion source conductance”* Rapid Commun. Mass Spectrometry (2003) 17: 771-776.
- Verkouteren, R.M., Assonov, S., Klinedinst, D.B., and Brand, W.A., *“Isotopic metrology of carbon dioxide. II. Effects of ion source materials, conductance, emission, and accelerating voltage on dual-inlet cross contamination”* Rapid Commun. Mass Spectrometry (2003) 17: 777-782.
- Verkouteren, R.M., *“NIST-led international collaboration results in improved measurement technology for light stable isotopes relevant to climate change”* NIST Journal of Research, May 2003 (News Briefs).
- Verkouteren, R.M., *“Strategic Plan for the U.S. Climate Change Science Program,”* A Report by the Climate Change Science Program and the Subcommittee on Global Change Research, Chapter 7, Carbon Cycle, July 2003.
- Windsor, E.S., Carlton, R., Gillen, J.G., Wight, S.A., and Bright, D.S., *“Copper Oxide Precipitates in Standard Reference Material 482,”* Journal of Research, National Institute of Standards and Technology, November-December 2002, 107 No 6, ISSN 1044-677X, 663-679.

1b. Manuscripts in review

(manuscripts that have been approved by the NIST internal review process and submitted for publication, but have not yet appeared in print)

- Armstrong, J.T., Marinenko, R.B., Levin, I., Blendell, J., Bouldin, C.P., Schenk, P.K., Ritter, J.J., and Kaiser, D.L., *“Fabrication and Electron Microprobe Characterization of Barium-Strontium-Titanate (BST) Films,”* American Institute of Physics Special Publication (in press).
- Batteas, J.D., *“Self-Assembled Porphyrinic Materials on Surfaces,”* Encyclopedia of Nanoscience and Nanotechnology, (in press).
- Batteas, J.D., *“Scanning Probe Studies of Nanoscale Adhesion Between Slides in the Presence of Liquids and Monolayers Films,”* Springer Nanotechnology Handbook, (in press).
- Bernik, S., Marinenko, R.B., Holc, J., Samardzija, Z., Ceh, M., and Kosec, M., *“Compositional homogeneity of ferroelectric (Pb,La)(Ti,Zr)O₃ thick film,”* J. Mater. Res., 18, no.2, Feb. 2003, pp 515-523 (in press).

- Bright, D.S., ***“Determination of Pore-Size Distributions in Low-k Dielectric Films by Transmission Electron Microscopy,”*** Characterization and Metrology for the Ultra Large Scale Integration Technology Conference (in press).
- Blevins, L.G., Jensen, K.A., Ristau, R.A., Yang, N.Y.C.,
Frayne, C.W., Striebich, R.C., DeWitt, M.J., Stouffer, S.D., Lee, E.J.,
Fletcher, R.A., Oran, J.M., Conny, J.M., and Mulholland, G.W., ***“Soot Inception in a Well Stirred Reactor,”*** 3rd Joint US Meeting of the Combustion Institute Proceedings (in press).
- Chi, P.H., and Gillen, J. G., ***“Positive Secondary Ion Yields Enhancement on Metal Elements Using Trichlorotrifluoroethane and Tetrachloroethene.”*** Proceeding of the SIMS XIV Conference, San Diego, CA. (in press).
- Currie, L.A., Kessler, J.D., Fletcher, R.A., and Dibb, J.E., ***“Long Range Transport of Biomass Aerosol to Greenland: Multi-Spectroscopic Investigation of Particles Deposited in the Snow,”*** Journal of Radioanalytical and Nuclear Chemistry (in press).
- Currie, L.A., ***The Remarkable Metrological History of Radiocarbon Dating [II]*** Journal Research of the National Institute of Standards and Technology, (in press).
- Gadzuk, J.W., and Plihal, M., ***“Vibrational Quantum Mirages in Scanning Tunneling Spectroscopy,”*** Physical Review B, (in press).
- Gillen, J.G., Wight, S.A., Chi, P.H., and Fahey, A. J., ***“Bevel Depth Profiling SIMS for Analysis of Layer Structures,”*** Characterization and Metrology for Ultra Large Scale Integration, American Institute of Physics (in press).
- Gillen J.G., ***“Automated Analysis of Organic Particles using Cluster SIMS,”*** Applied Surface Science (in press).
- Jablonski, A., and Powell, C. J., ***“Electron Effective Attenuation Lengths in Electron Spectroscopies,”*** Int. J. Compounds & Alloys (in press).
- Jablonski, A., Salvat, F., and Powell, C. J., ***“Comparison of Electron Elastic-Scattering Cross Sections Calculated from Two Commonly Used Atomic Potentials,”*** J. Phys. Chem. Ref. Data (in press).
- Jablonski, A., and Powell, C. J., ***“Effect of Different Electron Elastic-Scattering Cross Sections on Inelastic Mean Free Paths Obtained from Elastic-Backscattering Experiments,”*** Mikrochimica Acta (in press).
- Jablonski, A., and Powell, C. J., ***“The Information Depth for Elastic-Peak Electron Spectroscopy,”*** Surf. Science (in press).
- Jablonski, A., Salvat, F., and Powell, C. J., ***“Differential Cross Sections for Elastic Scattering of electrons by Atoms and Solids,”*** J. Electron Spectrosc. Relat. Phenom. (in press).
- Jach, T.J., Dura, J.A., Nguyen, N.V., Swider, J.R., Cappello, G., and Richter, C.A., ***“Comparative Measurements of SiO₂/Si Films for Thickness Less than 10 nm,”***

Surface and Interface Analysis, (in press).

Jach, T.J., Kim, S., Gopalan, V., Durbin, S.M., and Bright, D.S., "**Long-Range Strains and the Effects of Applied Field at 180° Ferroelectric Domain Walls in Lithium Niobate,**" Physical Review B, (in press).

Kopanski, J.J., Marchiando, J.F., Rennex, B.G., Simons, D. and Chau, Q., "**Towards Reproducible SCM Image Interpretation,**" J. Vac. Sci Technol. B, in review (in press).

Mahoney, C.M., Gillen, J.G., and Roberson, S.V., "**Dynamic SIMS Utilizing SF₅⁺ Polyatomic Primary Ion Beams for Drug Delivery Applications,**" Applied Surface Science (in press).

Marinenko, R.B., "**Heterogeneity Evaluation of Research Materials for Standards Certification,**" Microscopy and Microanalysis (in press).

Marinenko, R.B., "**NIST Standards for Microanalysis and the Certification Process,**" J. Res. NIST, Nov/ Dec. 2002, **107**, no. 6, 687-91 (in press).

Marinenko, R.B., Armstrong, J.T., Turner, S. Steel, E.B., and Stevie, F.A., "**Characterization of SiGe Bulk Compositional Standards with Electron Probe Microanalysis,**" American Inst. of Physics (AIP) Conference Proceedings of ULSI 2003 Meeting, Austin, TX, Mar. 24-28, 2003 (in press).

Marinenko, R.B., "**NIST Certification of Metallurgical Standard Reference Materials for Microanalysis - A Short History,**" Proceedings Microscopy and Microanalysis. 2003, San Antonio, TX, D. Piston, et. al., eds., Aug. 4-7, 2003, 1490CD (in press).

Michaels, C.A., Dentinger, C.J., Richter, L.J., Cavanagh, R.R., and Stranick, S.J., "**Nanoparticle Imaging with Near-Field Scanning Optical Microscopy,**" Materials Characterization (in press).

Newbury, D.E., and Marinenko, R.B., "**Special Issue: Accuracy Barriers of Quantitative Electron Beam X-ray Microanalysis,**" J. Res. NIST, Nov/ Dec 2002, 107, no. 6, pp 483-727. Proc. of NIST-MAS Workshop, *The Accuracy Barrier in Quantitative EPMA and the role of Standards*, Apr. 8-11, 2002, NIST, Gaithersburg, MD (in press).

Nikoobakht, B., and Batteas, J.D., "**Selective Growth of Zinc Oxide Nanodots and Nanowires on Silicon,**" Journal of Physical Chemistry, (in press).

Powell, C. J., "**Improvements in the Reliability of X-ray Photoelectron Spectroscopy for Surface Analysis,**" J. Chem. Education (in press).

Powell, C. J., "**Growth and Trends in Surface Analysis and its Applications,**" J. Vac. Sci. Tech. A (in press).

Powell, C. J., and Jablonski, A., "**Measurement of Gate-Oxide Film Thicknesses by X-ray Photoelectron Spectroscopy,**" Characterization and Metrology for ULSI Technology 2003 (in press).

Powell, C. J., "**Effect of Backscattered Electrons on the Analysis Area in Scanning Auger Microscopy,**" Appl. Surf. Science (in press).

- Robins, L.H., Armstrong, J.T., Vaudin, M.D., Bouldin, C.P., Woicik, J.C., Paul, A.J., Thurber, W.R., Miyano, K.E., Parker, C.A., Roberts, J.C., Bedair, S.M., Piner, E.L., Reed, M.J., El-Masry, N.A., Donovan, S.M., and Pearton, S.J., "***Optical and Structural Studies of Compositional Inhomogeneity in Strain-Relaxed Indium Gallium Nitride Films***," in Proc. of the 27th International Symposium on Compound Semiconductors (in press).
- Scott, J.H., and Windsor, E.S., "***Chemical and Structural Characterization of Ultrathin Dielectric Films Using Analytical Electron Microscopy***," Materials Research Society Symposium Proceedings (in press).
- Scott, J.H., Windsor, E.S., Brady, D., Canterbury, J., Karamcheti, A., Chism, W., and Diebold, A., "***Gate Dielectric Thickness Metrology Using Transmission Electron Microscopy***," in Proc. of the Characterization and Metrology for Ultra Large Scale Integration Technology (in press).
- Scott, J.H., "***Determination of Factors Affecting HRTEM Gate Dielectric Thickness Measurement Uncertainty***," Characterization and Metrology for ULSI Technology, American Institute of Physics Proceedings (in press).
- Stranick, S.J., Chase, D.B., and Michaels, C.A., "***Chemical Imaging with Scanning Near-Field Microscopy and Spectroscopy***," Rubber Chemistry and Technology (in press).
- Wagner, M.S., and Gillen, J.G., "***Impact Energy Dependence of SF₅⁺ Ion Beam Damage of Poly(Methyl Methacrylate) Studied by Time-of-Flight Secondary Ion Mass Spectrometry***," Applied Surface Science (in press).
- Wagner, M.S., Pasche, S., Textor, M., and Castner, D.G., "***Characterization of Poly(L-Lysine)-graft Poly(Ethylene Glycol) Assembled Monolayers on Niobium Pentoxide Substrates using Time of Flight Secondary Ion Mass Spectrometry and Multivariate Analysis***," Analytical Chemistry (in press).
- Werner, W. S. M., Smekal, W., and Powell, C. J., "***Simulation of Spectra for Surface Analysis***," Version 1.0 (SRD 100) (in press).
- Wylie, A.G., Greenwood, W., and Verkouteren, J.R., "***Mineralogical Characterization of Fibrous Talc***," Canadian Mineralogist, (in press).

2. Talks

- Armstrong, J.T., "***Electron beam techniques in the Earth sciences: High accuracy analysis of insulating materials***" Modern Developments and Applications in Microbeam Analysis – EMAS 2003, Cadiz, Spain, May 20, 2003.
- Armstrong, J.T., "***A Proposal for a Standard Nomenclature and Interactive Database of Parameters and Correction algorithm used in quantitative electron probe microanalysis***," Microscopy and Microanalysis 2003 Conference, San Antonio, TX, August 4, 2003.
- Armstrong, J.T., "***Instrumental, Standardization and Correction Procedure Requirements for Performing High Precision and Good Accuracy Electron Microprobe Analyses of Geological Materials and Other Insulating Specimens-Pitfalls and Promises***," University of Oregon, Eugene, OR, September 24, 2003.

- Armstrong, J.T., ***“Multiple Voltage Electron Probe Microanalysis (MV-EPMA). A Versatile and Sensitive Tool for Non-Destructive Characterization of Thin-Films, Layered Specimens, and Other Types of Surface and Near-Surface Analysis,”*** University of Oregon, Eugene, OR, September 25, 2003.
- Batteas, J.D., ***“Tales from the Nanoscale: Atomic Level Studies of Friction and Wear on Mica,”*** Long Island University, Brooklyn, NY, October 29, 2002.
- Batteas, J.D., ***“Tales from the Nanoscale: Materials Analysis by AFM,”*** NIST, Gaithersburg, MD, November 13, 2002.
- Batteas, J.D., ***“Adhesion and Friction,”*** Workshop on Nanometrology, NIST, Gaithersburg, MD, January 27, 2003.
- Batteas, J.D., ***“Direct Observation of the Tribochemical Restructuring of Mica Surfaces on the Atomic Scale,”*** American Chemical Society Meeting, New Orleans, LA, March 23, 2003.
- Batteas, J.D., ***“Scanned Probe Investigations of Proteins,”*** NIST, Gaithersburg, MD, August 4, 2003.
- Batteas, J.D., ***“Nanoscale Studies of Plant Protective Membranes,”*** EPA Workshop on Nanotechnology and the Environment,” National Science Foundation, Arlington, VA, September 16, 2003.
- Bright, D.S., ***“Particle Morphology Information From Electron Micrographs”*** NPP Conference, Melbourne, FL, December 10, 2003.
- Bright, D.S., ***“The Poly Plot Package-Data Analysis Tools for Spectral Images,”*** Microscopy and Microanalysis 2003 Conference, San Antonio, TX, August 7, 2003.
- Cavanagh, R.R., ***“Survey of Nanomaterials Developmental Activities: Who’s Doing What,”*** Nanotechnology Business Roadmap for Industry Conference, Chicago, IL, October 15, 2002.
- Chi, P.H., ***“Positive Secondary Ion Yields Enhancement on Metal Elements Using Chlorodifluoromethane and Tetrachloroethene,”*** Secondary Ion Mass Spectrometry International Conference, San Diego, CA, September 16, 2003.
- Conny, J.M., ***“Toward Accuracy in Measuring Atmospheric Black Carbon: A Response Surface Study,”*** 21st Annual Conference for the American Association for Aerosol Research, Charlotte, NC, October 10, 2002.
- Conny, J.M., ***“How Does Thermal-Optical Analysis for Elemental (Black) Carbon Behave Optically? A Focus on the Apparent Specific Absorption Cross Section,”*** Particulate Matter: Atmospheric Sciences, Exposure and the Fourth Colloquium on PM and Human Health, Pittsburgh, PA, April 2, 2003.
- Conny, J.M., ***“Using Response Surfaces and the Specific Absorption Cross Section to Optimize Thermal-Optical Methods for Elemental Carbon in Atmospheric Particulate Matter,”*** United States Environmental Protection Agency, National Exposure Research Laboratory Meeting, Research Triangle Park, NC, April 10, 2003. Invited.

- Conny, J.M., ***“Nanoscale Particle Imaging and Characterization at NIST,”*** Nanotechnology Grand Challenge in the Environment Workshop, Arlington, VA, May 8, 2003.
- Currie, L.A., ***“Quantification and Detection Limit Issues,”*** American Association for Aerosol Research Conference, Charlotte, NC, October 7, 2002. Invited.
- Currie, L.A., ***“What options exist for fundamental and traceable OC and EC Standards,”*** Organic Carbon, Elemental Carbon Workshop, Durango, CO, March 4, 2003, Invited.
- Currie, L.A., ***“On the Distribution of the Blank”*** Organic Carbon, Elemental Carbon Workshop, Durango, CO, March 4, 2003, Invited.
- Currie, L.A., ***“Detection and Quantification Capabilities of Measurement Systems,”*** AAAR Conference, Pittsburgh, PA, April 1, 2003.
- Currie, L.A., ***“Ultimate Limitations in the Application of Ultrasensitive Spectrometric Techniques to Environmental 14C: A Remote Aerosol Case Study,”*** Methods and Applications of Radioanalytical Chemistry Conference, Kona, HI, April 9, 2003. (Invited).
- Currie, L.A., ***“Long Range Transport of Biomass Aerosol to Greenland: Multispectroscopic Investigation of Particles Deposited in the Snow,”*** University of California-Irvine, Irvine, CA, June 27, 2003, Invited.
- Etz, E.S., ***“Development and Certification of NIST Standard Reference Materials for Relative Raman Intensity Calibration,”*** 2003 Annual Meeting of the European Microanalysis Society, Cadiz, Spain, May 18, 2003, Invited.
- Etz, E.S., ***“Raman Microspectroscopy of Some High Explosives Heated to High Temperatures,”*** Microscopy & Microanalysis – 2003 Meeting, San Antonio, TX, August 6, 2003.
- Fahey, A.F., ***“Evaluation of Uranium Isotopic Measurements with the IMS-1270 and Investigations of U-Th-Pb Sensitivities in Uranium-Bearing Minerals,”*** The 14th International Conference on Secondary Ion Mass Spectrometry, San Diego, CA, September 16, 2003.
- Fletcher, R.A., ***“Intercomparison of Three Techniques to Measure Aerosol Concentration,”*** American Association for Aerosol Research Conference, Charlotte, NC, October 8, 2002.
- Fletcher, R.A., ***“Progress on the Gas Mask Verficiation Project,”*** Calibration Coordination Group, Chemical Biological Defense Committee Meeting, NIST, Gaithersburg, MD, June 12, 2003.
- Gadzuk, J.W., ***“On the Detection of Chemically-Induced Hot Electrons in Surface Processes: from X-ray Edges to Schottky Barriers,”*** American Vacuum Society International Symposium, Denver, CO, November 5, 2003.
- Gadzuk, J.W., ***“Quantum Confined Fano Interferences in Scanning Tunneling Spectroscopy,”*** American Physical Society Meeting, Austin, TX, March 6, 2003.

- Gadzuk, J.W., ***“Detection of Chemically-Induced Hot Electrons in Surface Processes: from X-ray Edges to Schottky Barriers to Chemical Sensors,”*** Process Measurements Division Seminar, NIST, Gaithersburg, MD, April 28, 2003.
- Gadzuk, J.W., ***“Quantum Confined Fano Interference in Scanning Tunneling Spectroscopy and Other STM Topics,”*** NIST, Electron Physics Group, Gaithersburg, MD, June 19, 2003.
- Gadzuk, J.W., ***“Electron Transfer as a Unifying Theme: Quantum Confined (Vibrational) Mirages in STM as a Current Example,”*** International Union for Vacuum Science and Technology Association Workshop on Ultrafast Surface Dynamics, Telluride, CO, June 23, 2003.
- Gadzuk, J.W., ***“On the Detection of Chemically-Induced Hot Electrons in Surface Processes: from X-ray Edges to Schottky Barriers,”*** International Union for Vacuum Science and Technology Association Workshop on Ultrafast Surface Dynamics, Telluride, CO, June 24, 2003.
- Gadzuk, J.W., ***“Excited State Dynamics at Surfaces,”*** Gordon Research Conference, Andover, NH, August 12, 2003, Invited.
- Gadzuk, J.W., ***“Quantum Mirages in Scanning Tunneling Microscopy of Nanostructures: the Complimentary Roles of Analytic Models and Computer Simulations,”*** George Mason University, School of Computational Sciences, Fairfax, VA, September, 29, 2003, Invited.
- Garno, J.C., ***“Imaging, Marking and Printing Applications of Particle Technology,”*** Particles 2003 Conference, Toronto, Canada, August 23, 2003.
- Gillen, J.G., ***“New NIST Capabilities for Individual High Explosive Particle Analysis,”*** NPP Conference, Melbourne, FL, December 10, 2003.
- Gillen, J.G., ***“Automated Analysis of Organic Particles Using Cluster SIMS,”*** The 14th International Conference on Secondary Ion Mass Spectrometry, San Diego, CA, September 16, 2003.
- Jach, T.J., ***“Long Range Strains and the Effects of Applied Field at 180 Degree Ferroelectric Domain Walls in Lithium Niobate,”*** American Physical Society, Austin, TX, March 3, 2003.
- Jach, T.J., ***“Long-Range Strains and the Effects of Applied Field at 180 Degrees Ferroelectric Domain Walls in Lithium Niobate,”*** X-ray Physics Gordon Conference, Bristol, RI, July 15, 2003.
- Klouda, G.A., ***“TEXAQS-2000 14C Source Attribution of Ambient PM2.5.”*** American Association for Aerosol Research Annual Conference, Charlotte, NC, October 11, 2002.
- Lindstrom A.P., ***“Image Processing of Stars in CR-39”*** NPP Conference, Melbourne, FL, December 10, 2003.
- Mahoney, C.M., ***“Dynamic SIMS Utilizing SF₅⁺ Polyatomic Primary Ion Beams for Drug Delivery Applications,”*** 14th International Conference on Secondary Ion Mass Spectrometry, San Diego, CA, September 16, 2003.
- Marinenko, R.B., Armstrong, J.T., Turner, S. Steel, E.B., Stevie, F.A., ***“Characterization of SiGe Bulk Compositional Standards with Electron Probe Microanalysis,”*** 2003 International Conference on Characterization and Metrology for ULSI Technology Meeting, Austin, TX, March 25, 2003.

- Marinenko, R.B., "***NIST Certification of Metallurgical Standard Reference Materials for Microanalysis - A Short History***," Microscopy and Microanalysis 2003, San Antonio, TX, August 5, 2003.
- Michaels, C.A., "***Nanoscale Chemical Imaging with Near-Field Vibrational Spectroscopy***," International Forum on Process Analytical Chemistry 2003 Meeting, Scottsdale, AZ, January 22, 2003.
- Michaels, C.A., "***Chemical Imaging of Thin-Film Polymer Blends with Near-Field IR Microscopy***," American Chemical Society Meeting, New Orleans, LA, March 22, 2003.
- Michaels, C.A., "***Scanning Near-Field Dielectric Microscopy at Microwave Frequencies for Materials Characterization***," American Chemical Society Meeting, New Orleans, LA, March 22, 2003.
- Michaels, C.A., "***Statistical Image Analysis Techniques for Confocal Raman Microscopy***," Microbeam Analysis Society Special Topics Workshop, Gaithersburg, MD, April 3, 2003.
- Michaels, C.A., "***High Spatial Resolution Chemical Imaging with Near-Field and Confocal Microscopy***," Exxon Mobil Corporate Strategic Research Center, Annadale, NJ, July 2, 2003.
- Michaels, C.A., "***Chemical Imaging of Thermoplastic Olefins and Fluoropolymer Blend Films***," Oak Ridge, TN, September 26, 2003.
- Newbury, D.E., "***High Speed Elemental Mapping with the Silicon Drift X-ray Detector (SDD) on an SEM***," NPP Conference, Melbourne, FL, December 11, 2002.
- Newbury, D.E., "***High Speed Elemental Mapping with the Silicon Drift X-ray Detector (SDD) on an SEM***," NIST-MAS Workshop on Spectrum-Imaging and Hyperspectral Data Analysis, NIST, Gaithersburg, MD, April 30, 2003.
- Newbury, D.E., "***Analytical X-ray Spectrometry in the SEM with the NIST Microcalorimeter-EDS***," New England Society for Microscopy, Woods Hole, MA, May 3, 2003.
- Newbury, D.E., "***Determining Limits of Detection from Energy Dispersive X-ray Spectra***," Microscopy and Microanalysis-2003, San Antonio, Texas, Aug. 4, 2003.
- Newbury, D.E., "***The Accuracy Barrier in Quantitative EPMA and the Role of Standards***," Microscopy and Microanalysis-2003, San Antonio, Texas, Aug. 4, 2003.
- Powell, C. J., "***Analysis Area and Sample Area Viewed by the Analyzer in a Scanning Auger Microscope***," American Vacuum Society International Symposium, Denver, CO, November 5, 2002.
- Powell, C. J., "***Measurement of Gate-Oxide Film Thicknesses by X-ray Photoelectron Spectroscopy***," International Conference on Characterization and Metrology for ULSI Technology - 2003, Austin, TX, March 25, 2003.

- Powell, C. J., "***Applications of NIST Databases for Surface Analysis by Auger electron Spectroscopy and X-Ray Photoelectron Spectroscopy***," Surface Analysis 2003, University of Illinois, Urbana, IL, June 4, 2003. Invited.
- Powell, C. J., "***Measurement of Gate-Oxide Film Thicknesses by X-Ray Photoelectron Spectroscopy***," Ninth International Conference on Electronic Spectroscopy and Structure, Uppsala, Sweden, July 1, 2003.
- Powell, C. J., "***Differential Cross Sections for Elastic Scattering of Electrons by Atoms and Solids***," Ninth International Conference on Electronic Spectroscopy and Structure, Uppsala, Sweden, July 3, 2003.
- Richter, L.J., "***Buried and Free Polymer Interfaces Studies by Vibrationally-Resonant Sum-Frequency Generation***," Penn State University, State College, PA, October 1, 2002. Invited.
- Robey, S.W. "***Microwave Evanescent Microscope with Coupled Shear Force Topography Measurement***," American Vacuum Society 49th International Symposium, Denver, CO, November 5, 2002.
- Robey, S.W. "***One and two-photon photoemission studies of organic-thiol self-assembled monolayers on gold surfaces***," American Physical Society, Austin, TX, March 3, 2003.
- Scott, J.H., "***Nanoscale Chemical Characterization at NIST***," 225th National Meeting of the American Chemical Society, New Orleans, LA, March 25, 2003.
- Scott, J.H. "***Determination of Factors Affecting HRTEM Gate Dielectric Thickness Measurement Uncertainty***," 2003 International Conference on Characterization and Metrology for ULSI Technology, University of Texas, Austin, TX, March 27, 2003.
- Scott, J.H., "***Outputs from NIST/MAS Hyperspectral Workshop***," Microscopy and Microanalysis 2003 Conference, San Antonio, TX, August 7, 2003.
- Simons, D.S., "***IAEA SIMS Round Robin Results***" NPP Conference, Melbourne, FL, December 10, 2003.
- Simons, D.S., "***Experience with the PSearch Control-PXT Software for SIMS Instrument Control***" NPP Conference, Melbourne, FL, December 10, 2003.
- Simons, D.S., "***Si-Ge Interactive Reference Materials***," The 14th International Conference on Secondary Ion Mass Spectrometry, San Diego, CA, September 16, 2003.
- Simons, D.S., "***New Research Software-Features, Isotopic Calculations, and Support Issues***," IAEA Consultants Group Meeting on Particle Analysis for Safeguards, Bruyeres le Chatel, France, September 24, 2003.
- Small, J.A., "***NIST Microcalorimeter Detector for High Resolution X-ray Detection***" NPP Conference, Melbourne, FL, December 10, 2003.

- Small, J.A., ***"Quantitative X-Ray Microanalysis of Particles at Low Beam Energy,"*** Microscopy and Microanalysis 2003 Conference, San Antonio, TX, August 6, 2003.
- Stranick, S.J., ***"Near-Field Microscopies for Chemical and Material Analysis on Real World Samples,"*** FACSS 2002 Meeting, Providence, RI, October 14, 2002.
- Stranick, S.J., ***"Nano-Optics for Materials and Chemical Analysis on the Nanoscale,"*** NPP Conference, Melbourne, FL, December 10, 2003.
- Stranick, S.J., ***"Near-Field Spectroscopy for Materials Analysis on the Nanoscale,"*** Ithaca College, Ithaca, NY, March 18, 2003.
- Stranick, S.J., ***"Near-Field Microscopies for Chemical and Material Analysis on the Nanoscale,"*** MRS Special Topics Meeting, Rochester, NY, March 29, 2003.
- Stranick, S.J., ***"Near-Field Microscopies for Chemical and Materials Analysis on the Nanoscale,"*** American Chemical Society National Meeting, New York, NY, September 8, 2003.
- Stranick, S.J., ***"Near-Field Microscopies for Chemical and Material Analysis on the Nanoscale,"*** MURI/AFOSR Meeting, University of Rochester, Rochester, NY, September 15, 2003.
- Steel, E.B., ***"Dual Beam FIB – a new tool for nanoscale preparation and analysis,"*** NPP Conference, Melbourne, FL, December 10, 2003.
- Verkouteren, J.R., ***"NIST's Current Role in Asbestos Analysis ,"*** IATW Meeting, November, 2002.
- Verkouteren, J.R., ***"Next Generation Methods for Asbestos Analysis,"*** IATW Meeting, April, 2003.
- Verkouteren R.M. ***"Isotopic Measure of EC/OC Artifacts During Thermal-Optical Analysis of Particulate Matter,"*** Summit on Intercomparability Issues of PM_{2.5} Chemical Speciation Programs, Environmental Protection Agency, RTP, NC. April 10, 2003.
- Verkouteren R.M. ***"Measurement and Standards Programs to Support Climate Change Research,"*** North American Carbon Programme PI Symposium and Workshop, Pentagon City, VA. May 13, 2003.
- Verkouteren R.M. ***"Standardization of Isotope Ratio Measurements,"*** Second Annual USADA Symposium on Anti-Doping Science, Industry Hills, CA. August 23, 2003 Invited.
- Wagner, M.S., ***"Analytical Techniques for Assessing the Cleanliness of Medical Devices,"*** ASTM May Committee Meeting, Kansas City, MO, May 7, 2003.
- Wagner, M.S., ***"SF₅+Ion Beam Damage of Poly(Methyl Methacrylate) Studied By Time-Of-Flight Secondary Ion Mass Spectrometry,"*** The 14th International Conference on Secondary Ion Mass Spectrometry, San Diego, CA, September 16, 2003.
- Wagner, M.S., ***"Characterization of Tailored Non-Fouling Polymer Surfaces Using Time of Flight Secondary Ion Mass Spectrometry and Multivariate Analysis,"*** Biosurf V Conference-Functional Polymeric Surfaces in Biotechnology, Zurich, Switzerland, September 25, 2003.

Wight, S.A., *"EPMA Quality Assurance Summary"* NPP Conference, Melbourne, FL, December 10, 2003.

Wight, S.A., *"Bevel Crater SIM's for Auger Analysis of Laterally Oxidized AlGaAs/GaAs Multilayers,"* American Vacuum Society, Denver, CO, November 5, 2002.

Wight, S.A., *"SIMS Bevel Surface Preparation for Auger Analysis of Buried Structures,"* Surface Analysis 2003 Meeting, Champaign, IL, June 4, 2003.

Zeissler, C.J., *"Update on Digital Autoradiography for Fission or Activation Products, Actinides, and Other Radionuclides"* NPP Conference, Melbourne, FL, December 10, 2003.

3. Cooperative Research and Development Agreements (CRADAs) and Consortia

"Evaluation of Near-Field Spectroscopic Probes of Polymeric and Catalytic Materials," with Dow Chemical Company, Stephan J. Stranick and Chris A. Michaels

"Dielectric Measurement of Particles," with Pfizer Inc. and Stephan J. Stranick

"Nano-Particle Characterization," with Pfizer Inc. and Stephan J. Stranick

"Characterization and Modeling of Interfaces and Interphases between Polymer Coatings and Substrates," with MTS Systems Corporation, Chris Michaels, Charles Han, Tinh Nguyen, and Nick Martys

4. Patents Issued

5. Measurement Services

5a. SRM Activities

SRM 2242 Relative Intensity Correction Standard for Raman Spectroscopy -- 532 nm Excitation (E.S. Etz)

5b. SRD Activities

SRD 20 X-ray Photoelectron Spectroscopy Database (Versions 3.3 released February, 2003) C.J. Powell
SRD 20 X-ray Photoelectron Spectroscopy Database (Versions 3.4 released August, 2003) C.J. Powell
SRD 64 NIST Elastic-Electron Scattering Cross-Section (Database Users' Guide for Version 3.0, released December, 2002) C.J. Powell
SRD 64 NIST Elastic-Electron Scattering Cross-Section (Database Users' Guide for Version 3.1 released August, 2003) C. J. Powell

5c. Calibrations

None

6. Committee Assignments

Armstrong, J.T.

Advisory Group for ISO/TC202 on Microbeam Analysis (Member)

ASTM E-42 on Surface Analysis (Member)

ASTM E-42 on Terminology (Member)
ASTM E42.03 on Auger-Electron Spectroscopy and X-Ray Photoelectron Spectroscopy (Member)
ASTM E42.15 Electron Probe Microanalysis/Electron Microscopy (Member)
ASTM E42.96 US Tag for ISO/TC202/SC2 on Microbeam Analysis (Member)
CSTL Colloquium Committee

Batteas, J. D.

Elected to the Board of Directors for the Polymer Analysis Division (PAD) of the Society of Plastics Engineers

Conny, J.M.

ASTM D-22 Sampling and Analysis of Atmospheres (Member)

Currie, L.A.

Attribution Science Panel

Etz, E.S.

ASTM E-13 Molecular Spectroscopy and Chromatography (Member)
ASTM E-13.08 Raman Spectroscopy (Member)
ASTM E-13.10 Molecular Spectroscopic Optical Imaging (Member)
Microbeam Analysis Society (President 2002-2003)
Organization for the Prohibition of Chemical Weapons (OPCW): U.S. Representative to the Task Force on Analytical Database to the Verification Division of the OPCW, The Hague, The Netherlands

Fahey, A.J.

NASA Planetary Instrument Definitions Proposal Review Panel
ASTM E-42 Surface Analysis (Member)
ASTM E-42.06 Secondary Ion Mass Spectrometry (Member)

Fletcher, R.A.

NFPA T2.9 Contamination Control Committee
U.S. TAG ISO/TC 131 Fluid Power Systems (Technical Advisor)
U.S. TAG ISO/TC 131SC6 on Contamination Control and Hydraulic Fluids (Technical Advisor)

Gadzik, J.W.

Office of Information Services/Library (CSTL Subject Specialist/Advisor)
Washington Editorial Review Board (CSTL representative)

Gillen J.G.

ASTM E42 Surface Analysis
ASTM E42.06 Subcommittee on Secondary Ion Mass Spectrometry (Chairman)

Jach, T.J.

Synchrotron Radiation Instrumentation Collaborative Access Team, Applied Photon Source, Argonne National Laboratory (Member);
X24A Beamline, National Synchrotron Light Source, Brookhaven National Laboratory (Director and Spokesperson);

Member, Sector Review Panel of the Department of Energy Scientific Advisory Committee, Advanced Photon Source, (Nov.-Dec. 2002);
Advanced Technology Program Review Panel in Chemistry and Materials Science (Dec., 2002-Mar., 2003).

Kluda, G.A.

Equal Employment Opportunity Counselor

Marinenko, R.B.

Advisory Group for ISO TC202 on Microbeam Analysis (Member)
ASTM E42 Surface Analysis
ASTM E42.15 Electron Probe Microanalysis/Electron Microscopy (Member)
ASTM E42.96 US TAG for ISO TC202/SC2 on Microbeam Analysis (Member), US TAG Chairman for TC202
Microbeam Analysis Society, Editor of MicroNews (Newsletter, pub. 3x/yr)

Newbury, D.E.

ASTM E42 Surface Analysis (Member)
ISO TC202 on Microbeam Analysis (Member)
CSTL/837: Committee to Organize Workshop on Limits to Accuracy in Quantitative Electron Probe Microanalysis
Technical Program Committee for the 2002 Microscopy and Microanalysis Conference
SCANNING: Technical Program Committee for the 2002-2003 Conferences

Richter, L.J.

Division Representative to the CSTL Colloquium Committee

Scott, J.H.

ASTM E42-15 Electron Probe Microanalysis/Electron Microscopy (Member)
ASTM E42.96 US Tag for ISO/TC202/SC2 on Microbeam Analysis (Member)
ISO/Technical Committee 202/Subcommittee 3 (Secretary)

Simons, D.S.

ASTM E-42 Surface Analysis
ASTM E42.06 Secondary Ion Mass Spectrometry
ISO TC201 Surface Chemical Analysis – SC6 Secondary Ion Mass Spectrometry (Chairman of U.S. Delegation)
NIST Ionizing Radiation Safety Committee

Small, J.A.

Advisory Group for ISO TC202 on Microbeam Analysis (Member)
ASTM D22 Sampling and Analysis of Atmospheres (Member)
ASTM D22-05 Indoor Air (Member)
ASTM D22-05.01 Working Group Asbestos (Member)
ASTM E42-15 Electron Probe Microanalysis/Electron Microscopy (Chair)

Steel, E.B.

ASTM D22 Sampling and Analysis of Atmospheres (Member)
ASTM D22.05 Indoor Air

Stranick, S.J.

American Chemical Society, Frontiers of Chemistry Organization Committee for 2002 German-American Symposium (Chairman)

Division Laser Safety Officer

NFO-7 Near-Field Optics and Related Techniques (Co-Chairman)

Organizer/Chair: MRS Symposium "Biologically Inspired Hybrid Nano-Materials" MRS 2002, Boston MS, November 2002.

Organizer: MRS Symposium "Molecular Electronics" MRS 2002, Boston MS, November 2002.

Organizer: Nano-analysis Session at the ACS 226th National Meeting, New York, NY, September 2003

Committee: MRS Information Services Committee, Member 2003-2005

Committee: MRS Academic Affairs Committee, Member 2003-2005

Committee: ACS Awards Committee, Member 2002-2004

Committee: NFO Near-field Optics and Related Techniques Conference, International Advisory Panel. 2001-2005.

Turner, S.

ASTM D22 Sampling and Analysis of Atmospheres (Member)

ASTM D22.07 Sampling and Analysis of Asbestos (Member)

Verkouteren, J.R.

International Center for Diffraction Data (ICDD), Secretary, Ceramics Subcommittee

Verkouteren R.M.

IAEA Stable Isotope Reference Materials Committee

Water and Environmental Samples

STP/CENR Air Quality Research Subcommittee

Wight, S.A.

ASTM Committee E-42 on Surface Analysis

ASTM E42.15 Electron Probe Microanalysis/Electron Microscopy (Member)

ASTM E42.96 U.S. TA/ISO/TC202 Microbeam Analysis (Member)

Windsor, E.S.

Division 837 Safety Representative

Zeissler, C.J.

NIST Ionizing Radiation Safety Committee Substitute Member

Safety Representative for Ionizing Radiation, Division 837

7. Editorships**Newbury, D.E.**

Journal of Microscopy

Microscopy and Microanalysis

SCANNING

Simons, D. S.

Surface Science Spectra (Editorial Board)

Stranick, S.J.

“Anisotropic Nanoparticles-Synthesis, Characterization and Applications,” MRS Proceedings Volume 635

“Bioinspired Nanoscale Hybrid Systems” MRS Proceedings Volume 735.

Encyclopedia of Nanosciences and Nanotechnology,” (Editorial Board)

8. Seminars

November 21, 2002

Allison, C.E., Australian Commonwealth Scientific and Industrial Research Organization, "Understanding the Global Carbon Cycle - An international and isotopic measurement challenge." (Division Sponsor: M. Verkouteren)

March 26, 2003

Jacobson, M.Z., Stanford University, "Addressing air quality and climate through soot control" (Division Sponsor: M. Verkouteren)

May 15, 2003

Hnizdo, V., National Institute for Occupational Safety and Health, “Monte Carlo Analysis of the Detection of Clay Occlusion of Respirable Quartz Particles using Multiple-Voltage SEM-X-Ray Spectroscopy-Detection of a Surface Property Affecting Dust Toxicity,” (Division Sponsor: J. Armstrong)

June 26, 2003

Castner, D.G., University of Washington, “The Conformation and Orientation of Surface Bound Proteins,” (Division Sponsor: M. Wagner)

July 17, 2003

Anderle, M., Insituto Trentino di Cultura (ITC) “Surface and Thin Film Research at ITC-IRST,” (Division Sponsor: R. Cavanagh)

September 5, 2003

Chandra, S., Cornell University, “Subcellular Chemical Imaging in Cell Biology and Medicine by SIMS Ion Microscopy,” (Division Sponsor: G. Gillen)

9. Conferences/Workshops/Sessions Sponsored/Co-Sponsored

Microscopy Society of America and the Microbeam Analysis Society Symposium “Focus on Infrared and Raman Microanalysis,” Microscopy Society of America and the Microbeam Analysis Society Annual Meeting, San Antonio, TX , August 3-7, 2003 (Edgar S. Etz).

Microscopy Society of America and the Microbeam Analysis Society Symposium “Walter C. McCrone Memorial Symposium” Microscopy Society of America and the Microbeam Analysis Society Annual Meeting, San Antonio, TX , August 5, 2003 (Edgar S. Etz).

Technology Vision 2020 “Nanotechnology Road Map” Baltimore MD, October 2002: served on the Analytical Tools Panel and Advisory Group, (Stephan J. Stranick).

American Chemical Society 226th National Meeting, Nano-analysis Session, New York, NY, September 8, 2003 (Stephan J. Stranick, Co-Sponsored).

North American Carbon Program, Joint PI Meeting (co-organized with NSF, USGS, DOE, NOAA, USDA, NASA), Arlington, VA. May 12-14, 2003 (R. Michael Verkouteren)